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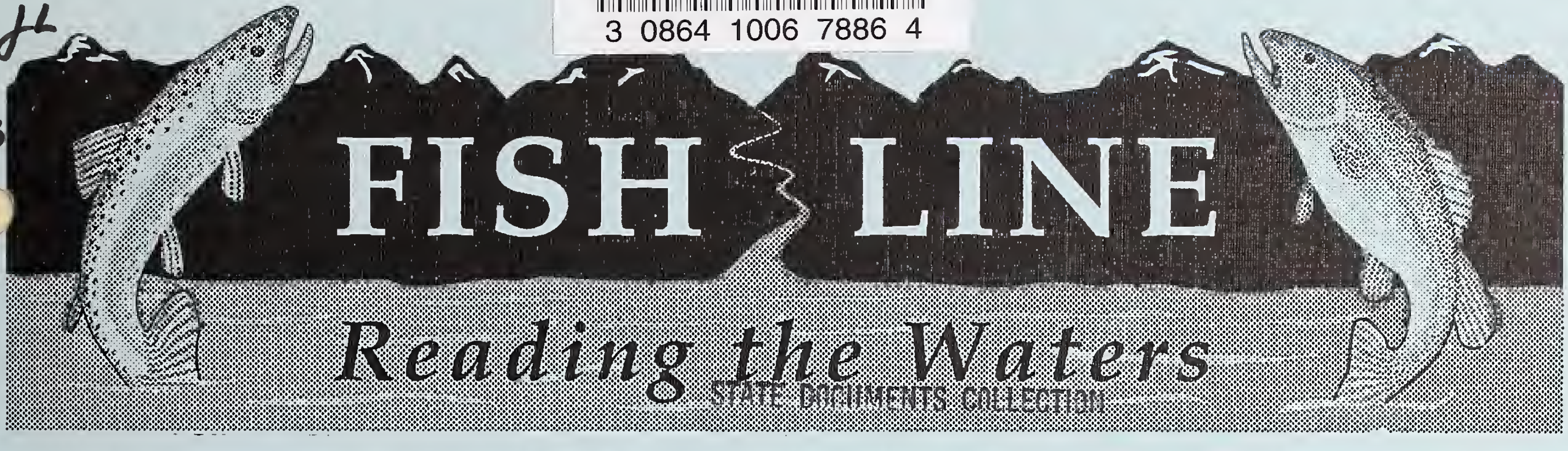

FISH LINE

Reading the Waters

STATE DOCUMENTS COLLECTION

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Low Flows - Fewer Fish

The shadow of drought is again hanging low over Montana, placing Montana's wild fisheries in what has become an awfully familiar game of jeopardy.

For fish, the immediate result of low stream flows is shrunken habitats and reduced food supplies. So, with fewer places to live and fewer things to eat, the ultimate result of low flows is fewer fish.

Most of Montana's wild trout rivers are still on the rebound from the terrible drought of 1988. Data from Rock Creek, the Beaverhead, the Missouri, the Big Hole and other Blue Ribbon trout streams show a conspicuous "hole" in the population for trout hatched in 1987 and 1988. Now, with the severe early warning signs in 1992--and the even dryer backlash from -El Nino- weather patterns expected next year--fishery managers are scrambling to find ways to keep water flowing over the heads of Montana's wild trout.

The forecast is not rosy. "It doesn't look good," admits Steve Leathe, Region 4 fisheries manager for the Department of Fish, Wildlife and Parks. "The Missouri River flows are already as low as we'd like to see them go."

Leathe, like most FW&P fisheries biologists, remembers the low-water nightmare of 1988. In August of that year, Montana's stream flows had so deteriorated that the Fish, Wildlife and Parks Commission enacted the most extensive emergency fishing regulations in FW&P history. The emergency regulations reduced the general trout limit in most western and central Montana streams from five to two fish.

The reduced limits were adopted to protect adult, spawning-age trout that were becoming increasingly vulnerable to a variety of environmental stresses and angling pressure. Because Montana rivers are not stocked with hatchery-bred trout, FW&P fishery biologists warned that the remaining adult wild trout would be crucial to rebuild trout populations. Since 1988, many of the streams have had the more restrictive regulations adopted as their standard regulations partly in response to continuing drought conditions.

While enactment of such a measure would be aimed at conserving adult fish, FW&P has already hatched plans to protect much younger fish in several important trout spawning tributaries. Information gathered during and after the 1988 drought shows that many streams suffered reductions in the "standing crop" of young fish. In 1992 the survivors of that standing crop are the 14- to 17-inch fish in Montana's best trout streams. "In the Missouri River, the number of fish in the 14- to 17-inch age class--fish we would expect to have been hatched in 1987 and '88--is lower but they're not gone," Leathe said. "It's taken four years to see the effect on the number of large trout."

The trouble is, if this so-called weak age class spawns in a drought-doomed stream--and if El Nino has its way in 1993--some of Montana's best wild trout fisheries could feel the effects for years.

"We're concerned about flows in the Missouri River's spawning tributaries," Leathe said. "We really don't want another hole in the population. We have a population that could be rebuilding if it wasn't for this bad year."

To counter mother nature, FW&P has been moving forward on cooperative arrangements with water users that have augmented flows important to young fish in Dry Creek and Deep Creek on the upper

Continued on Page 2

Little Prickly Pear Creek below the irrigation diversion in the above photo--totally dewatered. The existing Stream Preservation Law does not apply to irrigation projects.

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NOTES FROM THE FISH DOCTOR

FDA Says "NO" to Fish on Drugs

We hear a lot about the problems with people on drugs. Now another drug problem is brewing. Fisheries managers need to use chemicals on fish from time to time in their fisheries management activities. They use chemicals to anesthetize fish in order to handle fish safely without causing injury while studying the fish. They use chemicals or drugs to treat sick fish in hatcheries to have healthy fish to stock and to prevent the spread of disease. And they use chemicals for a variety of other purposes, including bone marking and to stimulate spawning of walleye.

The Food and Drug Administration (FDA) regulates most of the chemicals fisheries workers use on fish. FDA is responsible for assuring that the nations food supply is safe and free of chemical residues. This isn't an easy job, especially with all the chemicals fish (and all of us) are exposed to in the environment. When animals are knowingly exposed to chemicals, it is FDA's job to regulate the use of the chemical to assure there aren't any hidden chemical residues that the consumer is unaware of. Many of the chemicals used on fish are already approved for human use and pose no threat to anyone who knowingly or unknowingly consumes it. However, a chemical approved for a human to knowingly consume cannot be used on a fish that later might be eaten by a human who might unknowingly be exposed to the same chemical.

The use of chemicals or drugs in fisheries management is a complicated process. FDA considers fish a minor animal species. Relatively little chemical registration work has been done on chemicals used on fish. Very few chemicals have been approved by FDA and fisheries managers are severely limited in the drugs or chemicals they can use on fish. It is very expensive to complete all the required testing to get drugs approved for use on fish. For example, a minimum of $3.5 million is typically required for registration of a single drug. Private drug manufacturing companies have been reluctant to pay for the testing because the costs are high. It would be difficult to recover the money they put into it.

Currently only three drugs are registered for food fish use for treating disease problems, and even these have restrictions. Most drug registrations are for specific species and for specific disease applications. Oxytetracycline, for example, is an antibiotic that works well to treat internal bacterial infections. It is used extensively in human medicine. Oxytetracycline is approved to treat four specific diseases in salmonid fish and two diseases in catfish. It would work equally well to treat other bacterial diseases on other species. It may not be legally used in any other application than that stated on the registration. It would cost $50,000 - $80,000 per species for animal safety studies to expand the number of species it can be used on. It would cost at least $100,000 to register it for another disease.

The anesthetic fish managers use to study fish in the field is approved for fish use, but it has a 21-day withdrawal period before fish can be harvested. Obviously, this is a problem if we don't want to hold fish in a cage for 21 days after we expose them to this drug.

FDA allows only registered drugs to be used or drugs which FDA approves under a Investigational New Animal Drug (INAD) application. The INAD will allow interim use of chemicals until registration can be obtained. INAD's will give fisheries managers some flexibility, but will require much paperwork and will not allow them to react to specific unforeseen problems that might come up.

Fisheries managers are facing a serious problem that could change the way they have been managing fish. There will be no easy answers. FDA is bound by law to regulate these chemicals and may not have much room for flexibility. A special committee including state and federal fisheries managers and FDA is working hard to resolve this problem. In the meantime Montana fisheries managers will have to adjust. Regardless of the outcome of the drug use problem, Montana fishermen can be assured the fish they catch in Montana are safe to eat.

LOW FLOWS (Continued from Page 1)

Missouri River. But FW&P's most unusual effort is further downstream, on Little Prickly Pear Creek near the town of Wolf Creek.

In 1988, Little Prickly Pear Creek, the Missouri River's prolific rainbow trout spawning tributary, ran virtually dry for weeks. By the fall of 1989, the Craig section of the Missouri River--the section fed by the progeny of the Little Prickly Pear's spawning rainbow trout--supported the lowest number of rainbow yearlings ever recorded.

That's a scenario Leathe feels Montana can ill afford to repeat in 1992 and 1993. So, to circumvent the combination of drought and irrigation depletions, FW&P plans to try and rescue Prickly Pear Creek's small trout if flows don't improve significantly. "We're considering going in there and trapping the rainbow fry above a major irrigation diversion before Little Prickly Pear goes dry and then replanting the fry in the Missouri River," Leathe said. "That's pretty extreme action that may not work, but it will be worth trying if the streamflow stays critically low."

Indeed it may, but signs of success would still be years away. For Missouri River anglers, the end result of the rescue--17-inch lunkers--wouldn't show up until 1996.

The recent June rains have been a godsend to Montana's streams. However, the relief will last only as long as the rains do. We may still face critical streamflow conditions if the hot and dry conditions return.

Instream Water Reservations Approved in Missouri River Basin

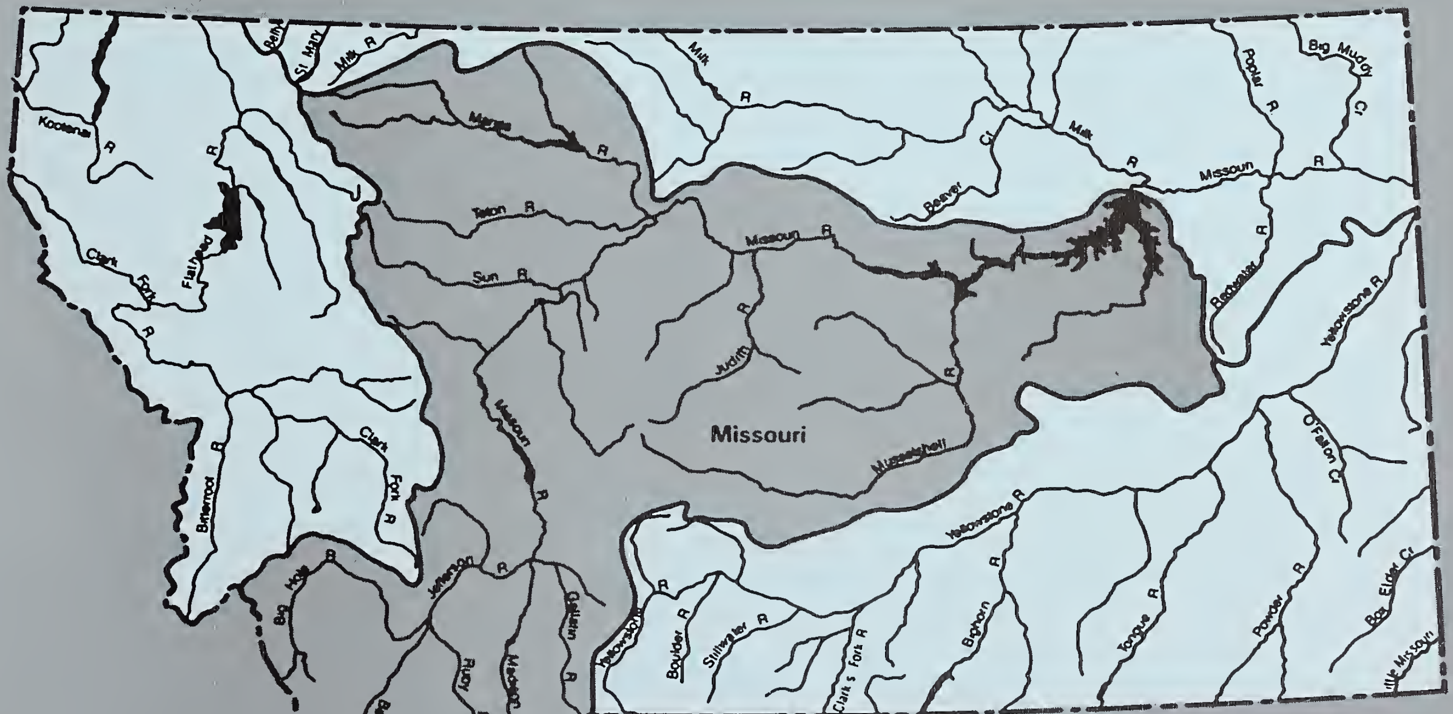
From the time of the Lewis and Clark expedition of 1805-06, through the fur trading and mining era when the steamboats plied its muddy waters up to Fort Benton, the Missouri River has historically been the gateway to Montana. The Missouri River Basin in Montana comprises about 50% of the state's total area and produces, on the average, 7.6 million acre feet of water each year. It is the heart of Montana. It supplies water for hydropower, agriculture, municipalities and some of the finest recreational resources in the country. From the headwaters of the Madison, Jefferson and Gallatin rivers to its exit from Montana near Culbertson, much of the fabric of Montana society depends upon a healthy and sustainable Missouri River system.

One of the key components of a healthy river system is, of course, an adequate supply of clean water. The Board of Natural Resources and Conservation (Board) has approved water reservations in the Missouri River Basin, ending a seven-year process. The June 29, 1992 decision conformed with the law mandating that a decision on these water allocations be made before July 1, 1992. These water reservations included allocations for instream flows to protect water quantity and quality.

What is a water reservation? When the Montana Water Use Act was passed in 1973, the option to reserve water for future beneficial uses became a component of our water law. The law allows public entities to apply to the Board to reserve water for existing or future beneficial uses or to maintain a minimum flow, level or quality of water. A reservation is a water right having a present day priority date that can be put to actual use either now or in the future. Water can be reserved for the traditional beneficial uses of irrigation, domestic purposes, mining and hydropower, as well as to maintain instream flows for fisheries and water quality purposes. Unlike these other beneficial water uses, instream flows cannot be acquired by a water use permit.

The Board's recent decision is only the second time in the state's history that such reservations have been granted. In 1978, the Board granted water reservations in the Yellowstone River Basin to several state and federal government entities, including DFWP which received instream flow reservations on the Yellowstone River and over 60 of its tributary streams.

In 1985, the Montana Legislature directed the Montana Department of Natural Resources and Conservation (DNRC) to initiate a proceeding to reserve water in the Missouri River Basin to help protect Montana's interest in the flows of the Missouri River. Because of the vast size of the basin, the proceeding was split. Only reservations in the Missouri Basin above Fort Peck Dam were considered during this proceeding. Water reservations in the



Portion of the Missouri River Basin in which flow reservations were granted.

Missouri River Basin below Fort Peck Dam and also in the Little Missouri River Basin will be the subject of a separate proceeding now in progress.

Applicants for water reservations in the Missouri Basin above Fort Peck Dam were required to file their applications with DNRC before July 1, 1989. Applications received by this date obtained a July 1, 1985 priority date as directed by statute. Forty public entities filed applications, including 18 conservation districts to provide water for 220 irrigation projects; 18 municipalities; the Department of Fish, Wildlife and Parks (DFWP) for instream flows on 249 streams, one lake and one wetland; the Department of Health and Environmental Sciences (DHES) for instream flows to protect water quality on the mainstem Missouri River; the U.S. Bureau of Reclamation for the proposed Virgelle project to transfer water from the Missouri to the Milk River Basin; and the U.S. Bureau of Land Management (BLM) for instream flows to protect fisheries and wildlife on 31 streams in the basin's headwaters.

Acquiring water reservations for instream flows at this late date can only protect the status quo, or the existing condition, of Montana's stream fisheries in the basin because the reservations cannot interfere with existing water rights currently held by water users who, for nearly 130 years, have appropriated water for agricultural, industrial, and municipal purposes. Many streams are already overburdened by water depletions and the status quo does not meet the needs of a healthy fishery. Reservations will, however, prevent an already undesirable situation from becoming worse. However, for those streams that do not suffer from serious dewatering and do provide good fisheries, the reservations will help provide a healthy future for the fish and the fishing they provide to anglers.

Following submission of the 40 reservation applications, the DNRC prepared a Draft Environmental Impact Statement (DEIS) on the reservation requests. The draft was released to the public in June, 1991. A Final EIS was released in January, 1992 following public meetings and written comments. A contested case hearing (which is similar to a trial but without a jury) was held in February 1992, where evidence on the pros and cons of the requested reservations was considered. The hearing examiner then prepared a proposed order for the Board containing his factual findings and recommendations on the reservation requests. On June 15 and 16, 1992, the Board heard final arguments from all the participating parties in the proceeding.

With some modifications and new conditions, the Board adopted the proposed decision of its hearing examiner. All but three of the municipalities were granted their requests (one municipality withdrew its application). Of the 219 irrigation projects proposed by conservation districts, 128 were approved. The DHES was granted its request for instream flows for water quality, and, with some modifications (flow reductions), the instream flow requests of the DFWP and BLM were granted as requested. A reservation for the Bureau of Reclamation's Virgelle project was approved with a slight reduction in the amount of water.

Several conditions were imposed by the Board on the granted reservations, the principle one being that if the Missouri Basin or any portion of it above Fort Peck Dam is closed to new water appropriations, the instream reservations are not longer valid during the period of closure. Except for municipalities, this also applies to consumptive reservations that have not been developed at the time of closure.

The Missouri River in Montana is home to world class trout fisheries, some of the best warm water fisheries int he country, and a last refuge for several native and endangered species. It supports wildlife and waterfowl species in numbers and diversity equal to, and in many cases better than, "the old days". Water-based recreation on lakes and reservoirs and free-flowing river segments are unparalleled.

The Missouri River and its tributary streams are divers and valuable recreational assets both for the residents of Montana and to out-of-state visitors. Their recreational and economic value have only in recent years begun to be realized. Recreation and tourism help diversify the state's economy and contribute substantially to its economic base. Instream flows are essential to help ensure the continued health of this sector of the economy and to preserve the fish and wildlife values that play such an important role in Montana's traditional way of life.

As Bill Thomas so eloquently stated in his poem, The River:

> "Before there was man, there was the river. It preceded the mountains, the trees and virtually all other forms of life. A healthy river, in its natural condition, is a complete ecosystem, vibrant with energy and life. It is a vital link to creation, to the longevity of the planet Earth. Without it, our society -- indeed all living things -- would perish."

The instream flow reservations granted by the Board in the Missouri River Basin will help preserve the unique values of Montana's rivers and streams for the future enjoyment of those who enjoy flowing waters.

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MONTANA'S FISHING ACCESS SITE SYSTEM

Public fishing access has been an important issue to Montana anglers for many years. With strong support from the state's anglers, the Montana Department of Fish, Wildlife and Parks (FW&P) has acquired a system that now numbers more than 300 sites. Most of these purchases have occurred during the last twenty years.

The financial commitment this system requires has become very apparent in recent years. Although the public is very supportive of acquisition and initial development, the long-term maintenance is rarely seen as significant. With many of these sites scattered in remote areas, the long-term maintenance costs are becoming problems.

To control over-all system costs, FW&P instituted a minimal site development philosophy. Under this basic policy, the Fishing Access Site (FAS) system is designed to get anglers to the water. The site developments provide public access and protect the site from damage. Site developments include boundary fences, entrance roads, parking spaces, a latrine (as dictated by use levels) and possibly a boat ramp.

In the late 1980's, an inventory of the Fishing Access Sites was done statewide. This information revealed a need for improvement of aging facilities and many sites that needed initial development projects. At the same time, the department made a commitment to provide handicapped accessible sites. These combined projects resulted in a projected need for more than $4 million to bring the system up to standard.

To begin to satisfy this need, the Department began requesting expanded capital budgets for fiscal years 1990 and 1991. During that biennium, FAS's received funding for projects totalling more than $935,000. This total includes state license funds, Federal Aid to Fisheries Restoration funds (D-J) and the Federal motorboat development funds.

Currently, about half of these Fishing Access Site projects have been completed. The other half of these projects are scheduled for completion within the next year.

The following is a list of the projects funded in fiscal years 90 and 91.

Region 1 (Kalispell area)
- Kila (Smith Lake)
- Kiwanis Lane
- Kokanee Bend
- Teakettle
- Woods Bay

Region 2 (Missoula area)
- Beavertail Pond
- Florence Bridge
- Harper's Lake
- Upsata Lake

Region 3 (Bozeman area)
- Browne's Bridge
- Harrison Lake
- Henneberry
- Mayor's Landing
- Varney Bridge

Region 4 (Great Falls area)
- Kramlich
- Missouri Dunes
- Ulm Bridge
- Wolf Creek Bridge

Region 5 (Billings area)
- Big Horn
- Big Rock
- Boulder Forks
- Gritty Stone
- Mallard's Landing
- Manuel Lisa
- Otter Creek

Region 6 (Glasgow area)
- Bear Paw Lake
- Ft. Peck Dredge Cuts
- Fresno Dam

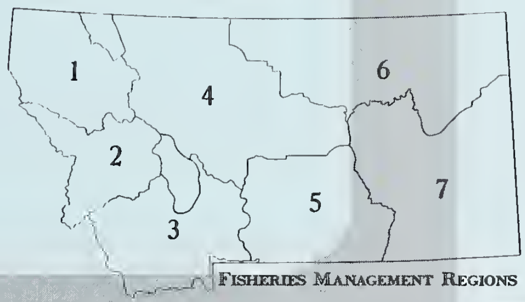
Region 7 (Miles City area)
- Diamond Willow
- Fallon Bridge
- Far West
- Intake Dam
- Seven Sisters

Region 8 (Helena area)
- York Bridge

During the 1991 Legislative session, the Department was successful in securing funds for the continued improvement of the Fishing Access Site system. More than $1.6 million was allocated from license and Federal sources to these capital projects. A total of 46 projects were selected for improvement with these funds. As presently planned, construction of these FY 92-93 projects will probably begin in mid-1993 and extend into 1995. The following is a list of Regions and the number of Fishing Access Site projects scheduled in each Region:

Region 1	• 5 sites
Region 2	• 9 sites
Region 3	• 9 sites
Region 4	• 9 sites
Region 5	• 8 sites
Region 6	• 1 site
Region 7	• 3 sites
Region 8	• 2 sites

The Department has made a serious commitment to upgrading the Fishing Access Site system. However, with these planned projects, our work is still far from complete. The Department will continue to need angler support for the Fishing Access Site system if we are to be successful in securing funds to complete the developments and maintain the facilities.



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BIG BLACKFOOT CHAPTER OF TROUT UNLIMITED

Big Blackfoot Chapter of Trout Unlimited (Blackfoot TU) hosted a Symposium in September of 1991 at Lubrecht Forest. Public agencies and private entities active in the Blackfoot drainage were invited to this symposium. Representatives of these groups reported on their past activities and future plans in the area. A very productive dialogue resulted and many expressed a desire to have further meetings. As a result, Blackfoot TU hosted a work session on June 10, 1992 for public agencies and private landowners to form a Co-ordinating Council for the Blackfoot drainage. The Co-ordinating Council's aim is to enhance, conserve, and protect the resources of the Blackfoot Valley through the cooperation of public and private interests involved.

For the past two years the Blackfoot TU has been working closely with Don Peters, Montana Dept. of Fish, Wildlife and Parks Biologist, to restore several of the tributaries of the Blackfoot. Under Peter's guidance and with the cooperation of the landowners involved, streambanks are being fenced, culverts are being replaced with bridges, pool excavation is being done, and willows are being planted. This work is being funded by money allocated for the Blackfoot River by the Montana Legislature, the Stream Restoration Fund from FW&P, grants obtained by Blackfoot TU, and particularly by donations of time, money, and work by the landowners affected. According to studies made by Don Peters and Ron Pierce of FW&P, fish are responding very well to the work done. One silted-up Spring Creek is quickly showing improvement.

At present the Blackfoot TU has identified 30 stream improvement projects and are putting a lot of effort into finding funds for these projects.

In the future, Blackfoot TU hopes to help FW&P with more work on tributaries and reclamation of old mining claims. The Blackfoot TU will continue their interest and active involvement for the protection and recovery of the resources of the Big Blackfoot River.

If you would like to share your views or offer suggestions, please send them to FISH LINE, Department of Fish, Wildlife and Parks, Fisheries Division, 1420 East Sixth Avenue, Helena, MT 59620, (406) 444-2449.

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Calendar of Events July 1992 - September 1992

July 13-16, 1992	Western Division American Fisheries Society Meeting, Fort Collins, Colorado
July 16-18, 1992	Governor's Symposium on North America's Hunting Heritage, MSU, Bozeman
July 18-19, 1992	Bannack Days, Bannack State Park
July 26-August 1, 1992	Endangered Species Symposium for Educators, Montana State University, Bozeman
August 6-7, 1992	Fish, Wildlife and Parks Commission Meeting, Helena
September 10-12, 1992	National Watchable Wildlife Conference, 1992 Missoula
September 11, 1992	Commission action on Draft Final Smith River Allocation Rule, Helena
September 20-26, 1992	Hunting Heritage Week
September 26, 1992	National Hunting & Fishing Day

Produced by the Fisheries Division of the Department of Fish, Wildlife and Parks.

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